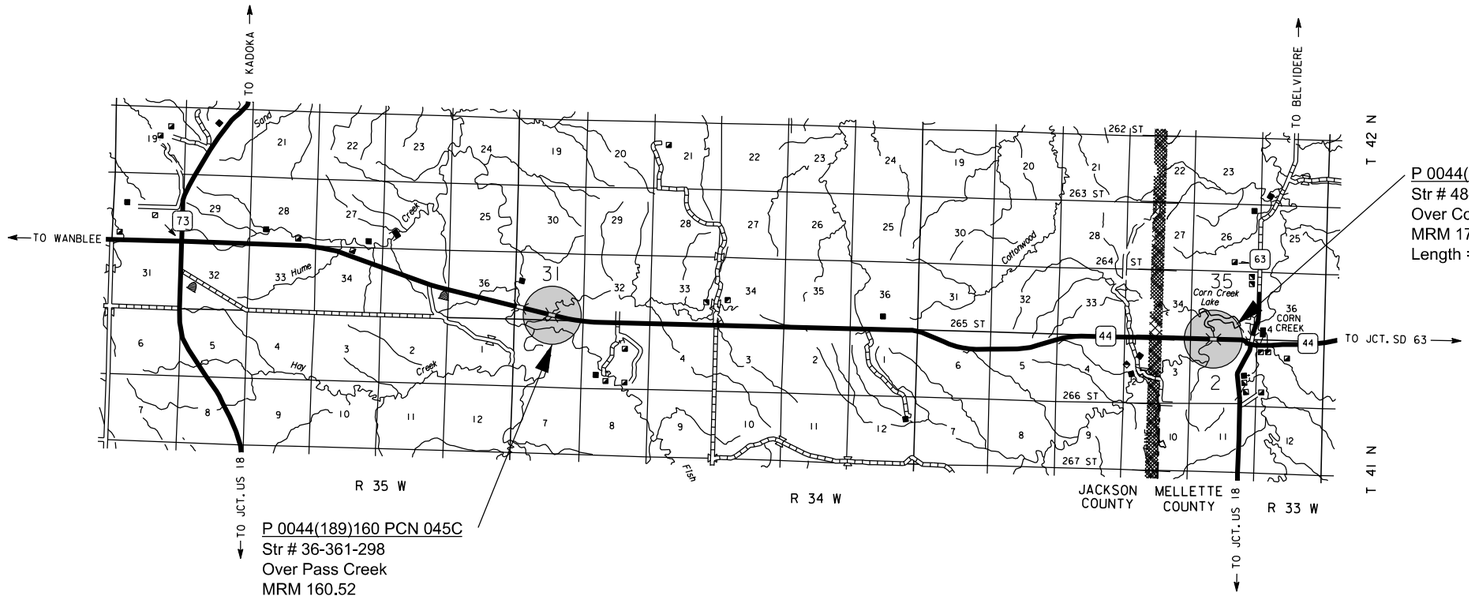
SECTION C – TRAFFIC CONTROL PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P0044(150)171, P0044(189)160 & NH0083(63)38	C1	C12

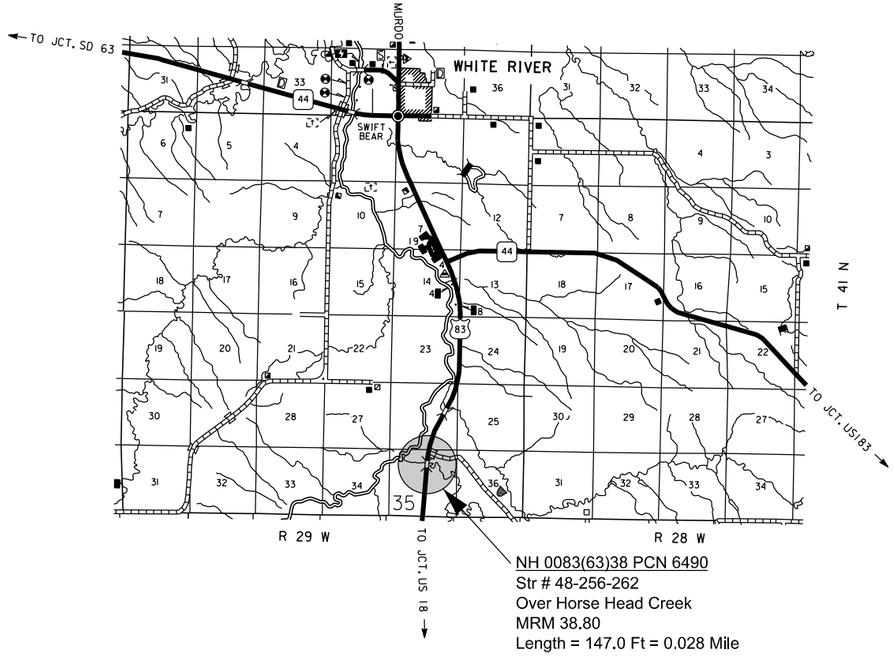
Plotting Date: 03/19/2014



P 0044(189)160 PCN 045C
Str # 36-361-298
Over Pass Creek
MRM 160.52
Length = 197.0 Ft = 0.037 Mile

P 0044(150)171 PCN 6488
Str # 48-013-210
Over Corn Creek
MRM 171.99
Length = 265.2 Ft = 0.050 Mile

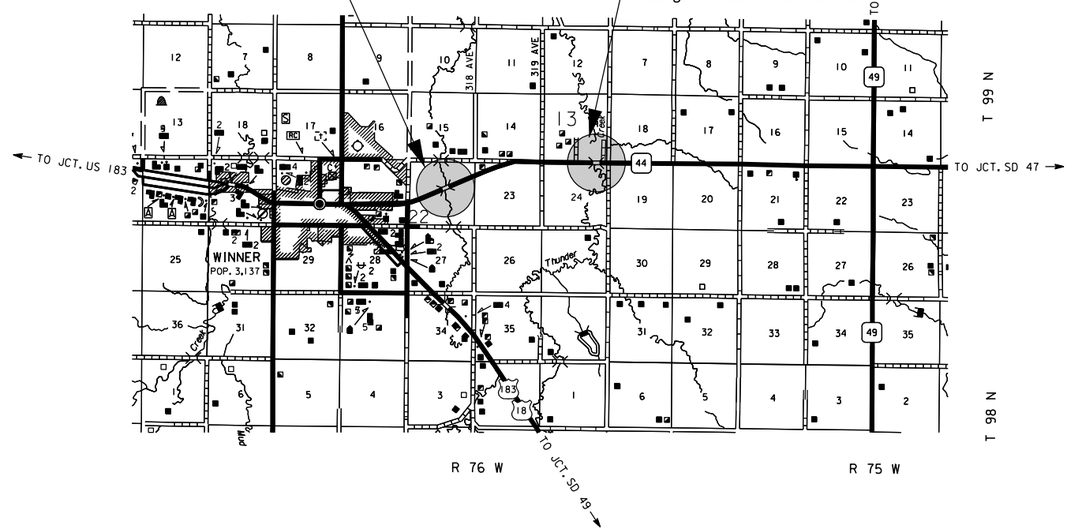
INDEX OF SHEETS



NH 0083(63)38 PCN 6490
Str # 48-256-262
Over Horse Head Creek
MRM 38.80
Length = 147.0 Ft = 0.028 Mile

P 0044(150)171 PCN 6488
Str # 62-215-274
Over Sand Creek
MRM 255.07
Length = 99.8 Ft = 0.019 Mile

P 0044(150)171 PCN 6488
Str # 62-238-270
Over Thunder Creek
MRM 257.40
Length = 99.5 Ft = 0.019 Mile



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ESTIMATE OF QUANTITIES

Project P 0044(150)171 PCN 6488

Bid Item Number	Item	Quantity	Unit
633E1300	Pavement Marking Paint, White	49.8	Gal
633E1305	Pavement Marking Paint, Yellow	17.8	Gal
634E0010	Flagging	70	Hour
634E0100	Traffic Control	718	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0300	Temporary Road Marker	408	Each
634E0500	4"x8" Amber Delineator Back to Back, Barrier Mounted	204	Each
634E0610	4" Temporary Pavement Marking Tape Type 2	7,632	Ft
634E0640	Temporary Pavement Marking	6,121	Ft
634E0700	Traffic Control Movable Concrete Barrier	100	Each
634E0705	Remove and Reset Traffic Control Movable Concrete Barrier	32	Each
634E0896	Portable Temporary Traffic Signal System	1	Each

Project P 0044(189)160 PCN 045C

Bid Item Number	Item	Quantity	Unit
633E1300	Pavement Marking Paint, White	17.5	Gal
633E1305	Pavement Marking Paint, Yellow	6.2	Gal
634E0010	Flagging	38	Hour
634E0100	Traffic Control	718	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0300	Temporary Road Marker	64	Each
634E0500	4"x8" Amber Delineator Back to Back, Barrier Mounted	32	Each
634E0610	4" Temporary Pavement Marking Tape Type 2	2,544	Ft
634E0640	Temporary Pavement Marking	2,180	Ft
634E0705	Remove and Reset Traffic Control Movable Concrete Barrier	32	Each
634E0896	Portable Temporary Traffic Signal System	1	Each

Project P 0083(63)38 PCN 6490

Bid Item Number	Item	Quantity	Unit
633E1300	Pavement Marking Paint, White	16.9	Gal
633E1305	Pavement Marking Paint, Yellow	6.0	Gal
634E0010	Flagging	40	Hour
634E0100	Traffic Control	718	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0300	Temporary Road Marker	64	Each
634E0500	4"x8" Amber Delineator Back to Back, Barrier Mounted	32	Each
634E0610	4" Temporary Pavement Marking Tape Type 2	2,544	Ft
634E0640	Temporary Pavement Marking	2,087	Ft
634E0700	Traffic Control Movable Concrete Barrier	32	Each
634E0896	Portable Temporary Traffic Signal System	1	Each

SEQUENCE OF OPERATIONS

The Contractor shall submit a proposed sequence of operations for the Engineer's review and approval at least two weeks prior to the preconstruction meeting.

The Contractor shall be aware of the Scope of Work notes in Sections E and F along with the Sequence of Operations notes in Section E and coordinate work accordingly.

The Contractor shall plan his work on the structures to allow passage of normal traffic up to sixteen feet width and traffic shall be maintained through the project at all times. The Contractor shall maintain access on and off the highway for local residences and county roads.

Guardrail will be allowed to be removed from each bridge site once work commences and the Portable Temporary Traffic Signal System is operational. Once the existing guardrail is removed from any bridge end, the Contractor shall place drums or Type II Barricades at 25-foot intervals for a distance of 175 feet beyond the exposed bridge end for each direction of traffic in accordance with Section 630.F of the Standard Specification For Roads and Bridges. These drums or barricades shall remain in place until the new guardrail has been installed.

For each site, the Contractor may place the asphalt surfacing after the completion of all bridge work. Multiple asphalt lift laydown operations will not be allowed on the same location on the same day, unless approved by the Engineer.

Guardrail may be placed after the completion of the bridge work and the placement of the asphalt surfacing. All guardrail must be in place prior to opening the roadway to traffic and removing the Portable Temporary Traffic Signal System.

Once work that inconveniences traffic has commenced on a structure site, it shall be pursued in a near continuous, expeditious manner to its completion. Any work that restricts the motorist from driving the posted speed limit, reduces existing roadway width, or causes a potentially unsafe condition due to Contractor operations such as frequent movement of equipment or materials on or through the project, is considered to be an inconvenience to traffic.

Five separate Portable Temporary Traffic Signal System setups will be required to complete the work on the five structure sites within this Contract. The Contractor will be allowed to work on up to three separate structure sites simultaneously and only three setups will be paid for as part of this Contract. Portable Temporary Traffic Signal Systems may be required to be utilized more than once within this Contract to satisfy the requirement of five separate setups needed. All costs associated with utilizing the same setup multiple times to complete the work within this Contract shall be incidental to the contract unit price per each for "Portable Temporary Traffic Signal System".

PROJECT WORK HOURS

The Contractor may perform work on the roadway during daylight hours only, unless additional hours are approved by the Engineer.

GENERAL MAINTENANCE OF TRAFFIC

All traffic control sign locations shall be set in the field by the Contractor and verified by the Engineer prior to installation.

Certified flaggers properly attired and preceded by FLAGGER symbol signs, will be required where work activity and/or equipment present a hazard to the workers, a hazard to through traffic, or encroaches into a driving lane.

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Storage of vehicles and equipment shall be outside the clear zone and as near as possible to the right-of-way line. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work site in a minimum number of vehicles necessary to perform the work.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

Traffic approaching the project from intersecting roadways and approaches must be adequately accommodated. Major intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

All non-fixed location signs may be mounted on portable supports. The portable supports shall be constructed to yield upon impact to minimize hazards to motorists, and shall be of proper height. The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days the signs shall meet the minimum mounting heights of 5 foot for rural areas and 7 foot for urban areas.

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP Report 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

Erect only those signs that are applicable to the work in progress. When the Contractor is working at specific work spaces within the project, only those traffic control devices applicable to that operation should be displayed. Non-applicable signs and/or devices shall be removed from view by the Contractor and stored a minimum of 30 feet from the driving lanes during periods of in-activity. All costs to do this work shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

GENERAL MAINTENANCE OF TRAFFIC (CONTINUED)

A shadow vehicle, equipped with flashing amber light and a ROAD MACHINERY AHEAD sign prominently displayed, shall be used in advance of landscaping, clean up, and other mobile work activities. Highway equipment working within traffic or adjacent to traffic shall, at all times, display a flashing or revolving amber light to warn the traveling public. The Contractor shall maintain the driving surface on the project to eliminate hazards to the traveling public. The driving surface is defined as both Driving Lanes along with both outside shoulders on the project.

The cost for additional signs shall be paid for at the contract unit price per unit for “Traffic Control”. Additional Flagger hours shall be paid for at the contract unit price per hour for “Flagging”. The cost of additional channeling devices shall be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”.

Traffic Control units, as shown in the Estimate of Quantities, are estimated based on a total of three traffic control set ups for the contract. The Contractor’s sequence of operation may require adjustments in quantities, either more or less. Payment will be made only for the maximum number of individual signs in use at any one time, actually ordered by the Engineer. Traffic Control signs may be required to be utilized more than once within this Contract to satisfy the requirement of five separate site setups needed. All costs associated with utilizing the same signs multiple times to complete the work within this Contract shall be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”.

TRAFFIC CONTROL

The Contractor shall designate an employee who will be available 24 hours/day, 7 days/week to be responsible for the maintenance of traffic during periods of repair work. The person so designated must have training and experience in the field of construction traffic control and be knowledgeable about the Manual on Uniform Traffic Control Devices (MUTCD). The cost of the traffic control person shall be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”. The Engineer must approve the employee selected. The name and phone number of the person(s) shall be provided to the SD Department of Transportation (842-0810), SD Highway Patrol State Radio (email to Jason.Husby@state.sd.us). Jackson County Sheriff Department (837-2285), Mellette County Sheriff Department (259-3362), and the Tripp County Sheriff Department (842-3600).

Channelizing devices in a series shall be of the same type. Channelizing drums shall be of a two part construction with breakaway bases.

Channelizing devices shall be placed at 50 feet interval spacing along the centerline edge of the site work zones on the structures where existing bridge rail is not being removed, as shown in the “Special Detail For Traffic Control Device”.

All traffic control devices shall be in “like new” condition.

Type III Barricades 8’ wide shall mark both ends of the construction work zone. In addition, Type III Barricades 8' wide shall be placed in the lanes that are closed to traffic at the discretion of the Engineer.

TEMPORARY TRAFFIC SIGNAL SYSTEM

The Contractor shall furnish, install, operate, and maintain a “Portable Temporary Traffic Signal System” during construction phases as determined by the Engineer.

The Portable Temporary Traffic Signal System shall be set up to dwell in red.

The green time may be adjusted as needed.

Initial Timings for the structures are as detailed below:

Structure 36-361-298 ~ SD 44 (MRM 160.52)

Red = 70 sec. Yellow = 7 sec. Green = 25 sec.

The aforementioned dwell timings are based on 1,530 feet between opposing STOP BARS.

Structure 48-013-210 ~ SD 44 (MRM 171.99)

Red = 75 sec. Yellow = 7 sec. Green = 25 sec.

The aforementioned dwell timings are based on 1,625 feet between opposing STOP BARS.

Structure 62-215-274 ~ SD 44 (MRM 255.07)

Red = 60 sec. Yellow = 7 sec. Green = 35 sec.

The aforementioned dwell timings are based on 1,300 feet between opposing STOP BARS.

Structure 62-238-270 ~ SD 44 (MRM 257.40)

Red = 60 sec. Yellow = 7 sec. Green = 35 sec.

The aforementioned dwell timings are based on 1,275 feet between opposing STOP BARS.

Structure 48-256-262 ~ SD 83 (MRM 38.80)

Red = 65 sec. Yellow = 7 sec. Green = 40 sec.

The aforementioned dwell timings are based on 1,440 feet between opposing STOP BARS.

TEMPORARY PAVEMENT MARKING

After completion of applicable site work, temporary road markers (tabs) shall be installed as per the Standard Specifications until the application of permanent pavement marking paint.

Flagger symbol signs (W20-7) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights shall be positioned on the roadway shoulder in advance of workers for both directions of traffic during the installation of temporary pavement markers. The traffic control device used shall be moved to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), a Workers symbol sign (W21-1) or a BE PREPARED TO STOP (W3-4) warning sign shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.

Approximately 144 feet of 4 inch white temporary pavement marking tape, type 2, (24" stop bar reduced to 4" equivalent) and 2,400 feet of 4 inch yellow temporary pavement marking tape, type 2, will be required per structure site. The Contractor will be paid only once for tape placement. The Contractor is responsible for maintaining and cleaning the tape throughout the duration of the project and for removing all temporary pavement marking tape when it is no longer required.

A quantity of temporary pavement marking has been set up for the different phases of traffic control. Temporary pavement marking shall be used to mark the taper and tangent section in front of the movable concrete barriers used to close the roadway lane for the work zone as shown on detail for “Temporary Movable Concrete Barrier Placement At Bridge Ends With A Stop Condition And Bridge Rail” and “Temporary Movable Concrete Barrier Placement At Bridge Ends With A Stop Condition And No Bridge Rail”.

After completion of structure site work, temporary road markers shall be used to mark centerline of all new surfaces.

PERMANENT PAVEMENT MARKING

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of No Passing Zones.

The application of permanent pavement marking paint may not begin until 2 calendar days following completion of flush seal and shall be completed within 14 calendar days following completion of the flush seal. If the Flush Seal is eliminated, the Contactor shall complete the application of permanent pavement marking paint no sooner than 2 calendar days, but within 14 calendar days following completion of final surfacing.

The Contractor will be required to inventory and mark, and/or offset the extent and location of the existing turn arrows, etc. before the markings are obliterated.

The Contractor will be required to repaint all existing pavement marking including centerline, edge line, lane lines, turn arrows, etc. This list is approximate. Additional quantities are included in the Estimate of Quantities to paint the additional pavement markings.

All materials shall be applied as per manufacturer's recommendations.

MOVABLE CONCRETE BARRIER

There are a total of 136 movable concrete barrier sections (124 straight sections and 12 tapered end sections) available at the SDDOT Murdo Maintenance Yard that may be picked up by the Contractor to be utilized on this Contract. The quantity of barrier will be enough to accommodate the bridge work and approach pavement reconstruction work. The Contractor shall contact Tim Huffman (605-842-5387) prior to picking up and returning any barriers.

Sufficient concrete barrier quantities have been included to allow the Contractor to work simultaneously on any three structures (Contractor option). This quantity of concrete barriers will allow 100 feet of space from the end of the flare to the beginning of the bridge work and extend to 100 feet past the end of the bridge work. The quantities will be adjusted and the Contractor will be paid for the maximum amount of barriers used at any one time based on the Contractor's sequence of operations.

All costs for labor, equipment and incidentals required for loading barrier sections from the SDDOT Murdo Maintenance Yard; hauling, unloading, and placing barrier sections at the initial work site; for removing old delineators and road markers from the barrier(s); and returning the barrier sections to the SDDOT Murdo Maintenance Yard if the barrier is only used at one site shall be incidental to the contract unit price per each for "Traffic Control Movable Concrete Barrier".

All costs for labor, equipment, and incidentals required for loading, hauling, unloading, and placing the barrier due to utilizing concrete barrier sections between the different construction sites; for removing old delineators and road markers from the barrier(s); and returning the barrier sections to the SDDOT Murdo Maintenance Yard shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier".

The Contractor shall be allowed to stockpile the concrete barrier sections at the Winner SDDOT Maintenance yard between the 2015 and 2016 construction seasons. The Contractor shall include this request with the proposed sequence of operations for the Engineer's review and approval. The cost to haul and unload the barrier sections at the Winner Maintenance yard and load, haul, and place barrier sections at the 2016 work site will be incidental to the cost for "Remove and Reset Traffic Concrete Movable Concrete Barrier".

All costs for labor, equipment, and incidentals required for shifting barrier between lanes for phased construction shall be incidental to the contract unit price per each for "Traffic Control Movable Concrete Barrier" and "Remove and Reset Traffic Control Movable Concrete Barrier".

Payment will not be made for the item "Traffic Control Movable Concrete Barrier" or "Remove and Reset Traffic Control Movable Concrete Barrier" until after the "4" x 8" Amber Delineator Back to Back, Barrier Mounted" delineation has been properly installed.

A 4" X 8" amber delineator shall be mounted on top of the movable concrete barrier. Replacement of damaged amber delineators shall be furnished and replaced by the Contractor. All costs associated with furnishing, installing, and maintaining the 4" X 8" amber delineators shall be included in the contract unit price per each for "4" X 8" Amber Delineator Back to Back, Barrier Mounted".

A temporary road marker shall be attached to each side of the movable concrete barrier. Replacement of damaged temporary road markers shall be furnished and replaced by the Contractor. All costs associated with furnishing, installing, and maintaining the temporary road markers shall be included in the contract unit price per each for "Temporary Road Marker".

All movable concrete barrier units shall be hauled to the SDDOT Murdo Maintenance Yard at the completion of each project site, if not utilized at another site(s). The Contractor shall take care to ensure that all barriers used for Traffic Control are returned to the SDDOT Murdo Maintenance Yard stockpile location in a satisfactory condition.

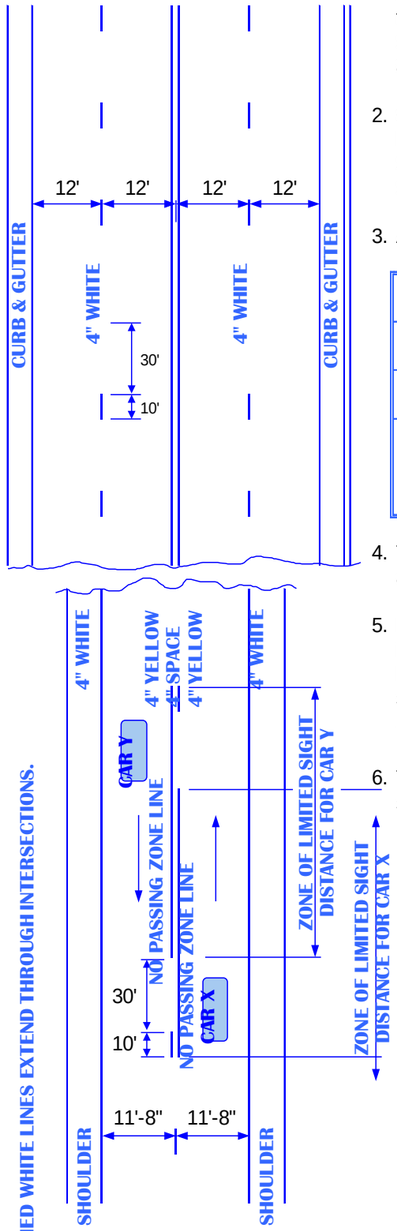
The table below shows the total number of barrier required at each site.

Hwy	Structure Number	Straight Sections	End Sections
SD44	36-361-298	28	4
SD44	48-013-210	28	4
US83	48-256-262	28	4
SD44	62-215-274	48	2
SD44	62-238-270	48	2
	Totals:	180	16

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P0044(150)171, +...	C5	C12

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

UNDIVIDED ROADWAY



1. Pavement marking paint and glass beads will be furnished and applied by the Contractor. Material shall meet the requirements of Section 980 and 981 of the Standard Specifications. The bead application rate shall be 8 pounds/gallon of paint.

2. Construction requirements, methods of measurement and basis of payment shall conform to the requirements of Section 633 of the Standard Specifications and the Supplemental Specifications.

3. Approximate paint application rates shall be as follows:

Four Lane Roadway (Rates for one line)	Two Lane Roadway
Solid Yellow Centerline Rate = 16.90 Gals./Pass-Mile	Yellow Centerline (Includes No Passing Zones) Rate = 12± Gals./Pass-Mile
Dashed White Laneline Rate = 4.60 Gals./Pass-Mile	Solid White Edgeline (Rate for one line) Rate = 16.90 Gals./Pass-Mile
Solid White Edgeline (Not applicable in curb & gutter section) Rate = 16.90 Gals./Pass-Mile	

4. Typical pavement marking as shown on this sheet shall be applied throughout the entire length of undivided roadway.

5. Exact location of NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, shall not be used as the beginning and ending of NO PASSING ZONE lines.

6. Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

ESTIMATED QUANTITIES

PAVEMENT MARKING PAINT	QUANTITY (GALLONS) PCN 6488	PCN 6490	PCN 045C
WHITE	49.8	16.9	17.5
YELLOW	17.8	6.0	6.2
TOTAL	67.6	22.9	23.7

SIGN TABULATION

Project P0044(150)171 PCN 6488

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
R10-6	24" x 36"	STOP HERE ON RED	2	20	40
W1-3	48" x 48"	REVERSE TURN SIGN (LEFT OR RIGHT)	1	34	34
W3-3	48" x 48"	SIGNAL AHEAD (SYMBOL)	2	34	68
W3-4	48" x 48"	BE PREPARED TO STOP	2	34	68
W13-1P	30" x 30"	ADVISORY SPEED PLATE	2	21	42
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	2	34	68
W20-4	48" x 48"	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-7	48" x 48"	FLAGGER	2	34	68
W21-1	48" x 48"	WORKERS (SYMBOL)	1	34	34
W21-3	48" x 48"	ROAD MACHINERY AHEAD	1	34	34
*****	*****	TYPE III BARRICADE - 8 FT. SINGLE SIDED	4	40	160
				TOTAL UNITS	**718**

Project P0044(189)160 PCN 6490

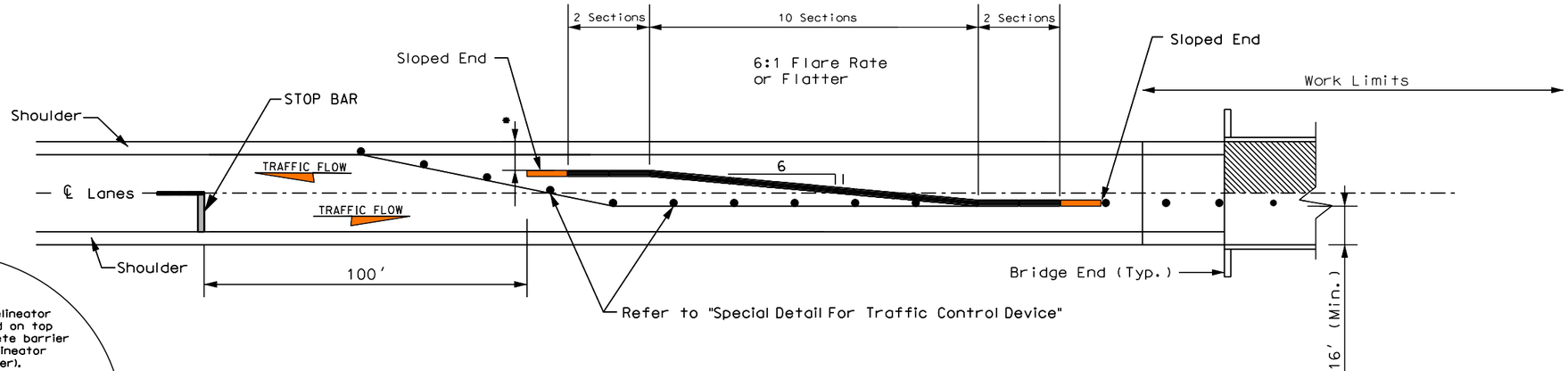
SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
R10-6	24" x 36"	STOP HERE ON RED	2	20	40
W1-3	48" x 48"	REVERSE TURN SIGN (LEFT OR RIGHT)	1	34	34
W3-3	48" x 48"	SIGNAL AHEAD (SYMBOL)	2	34	68
W3-4	48" x 48"	BE PREPARED TO STOP	2	34	68
W13-1P	30" x 30"	ADVISORY SPEED PLATE	2	21	42
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	2	34	68
W20-4	48" x 48"	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-7	48" x 48"	FLAGGER	2	34	68
W21-1	48" x 48"	WORKERS (SYMBOL)	1	34	34
W21-3	48" x 48"	ROAD MACHINERY AHEAD	1	34	34
*****	*****	TYPE III BARRICADE - 8 FT. SINGLE SIDED	4	40	160
				TOTAL UNITS	**718**

Project NH0083(63)38 PCN 045C

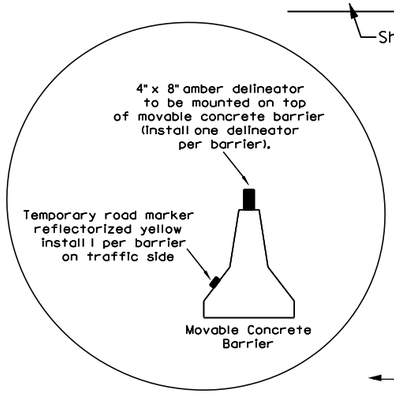
SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
R10-6	24" x 36"	STOP HERE ON RED	2	20	40
W1-3	48" x 48"	REVERSE TURN SIGN (LEFT OR RIGHT)	1	34	34
W3-3	48" x 48"	SIGNAL AHEAD (SYMBOL)	2	34	68
W3-4	48" x 48"	BE PREPARED TO STOP	2	34	68
W13-1P	30" x 30"	ADVISORY SPEED PLATE	2	21	42
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	2	34	68
W20-4	48" x 48"	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-7	48" x 48"	FLAGGER	2	34	68
W21-1	48" x 48"	WORKERS (SYMBOL)	1	34	34
W21-3	48" x 48"	ROAD MACHINERY AHEAD	1	34	34
*****	*****	TYPE III BARRICADE - 8 FT. SINGLE SIDED	4	40	160
				TOTAL UNITS	**718**

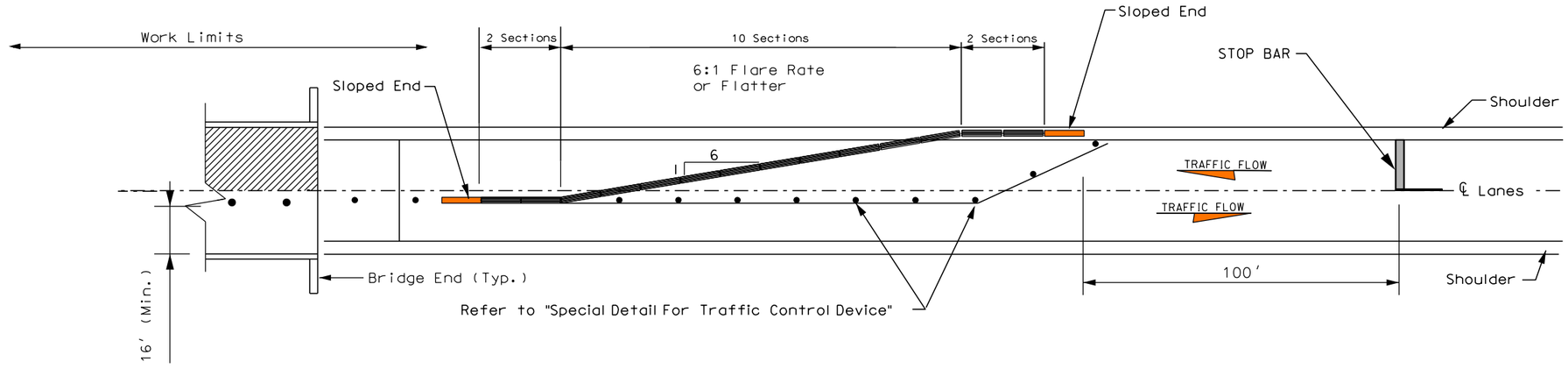
TEMPORARY MOVABLE CONCRETE BARRIER PLACEMENT AT BRIDGE ENDS WITH A STOP CONDITION AND BRIDGE RAIL

Structure #36-361-298 & 48-013-210 on SD44
Structure #48-256-262 on US83



PLAN VIEW





PLAN VIEW

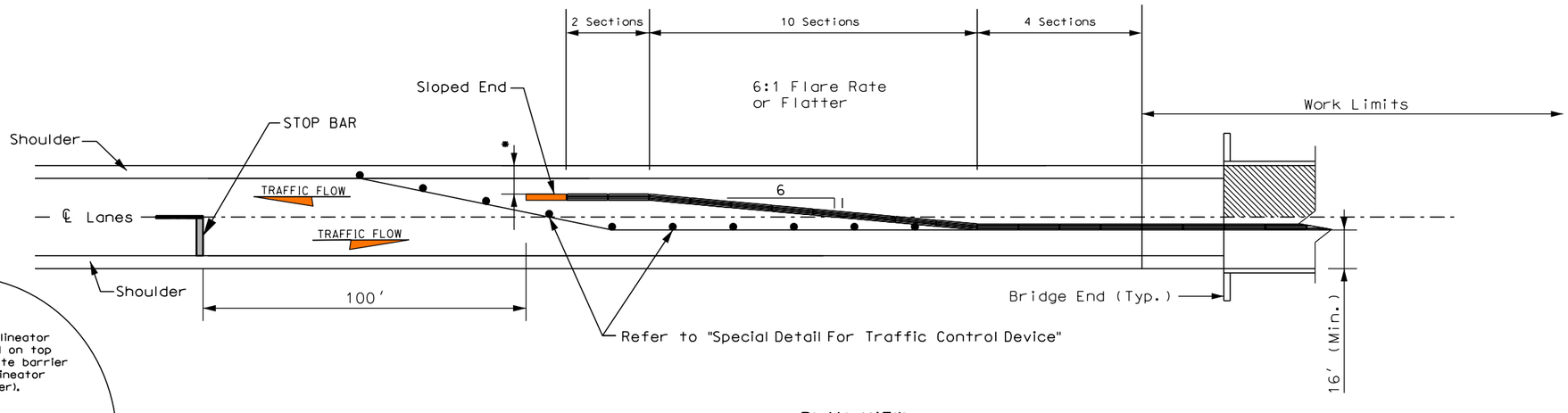
GENERAL NOTES:

* *10 FOOT MAXIMUM DISTANCE FROM EDGE OF SHOULDER TO SLOPED END. IF CONSTRUCTION ACCESS IS NOT NEEDED, SLOPED END SHALL BE PLACED AT EDGE OF SHOULDER.*

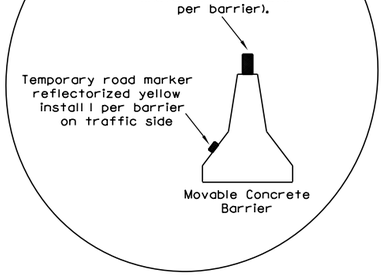
ANY ADJUSTMENTS MADE TO THE BARRIER CONFIGURATION SHALL BE APPROVED BY THE ENGINEER.

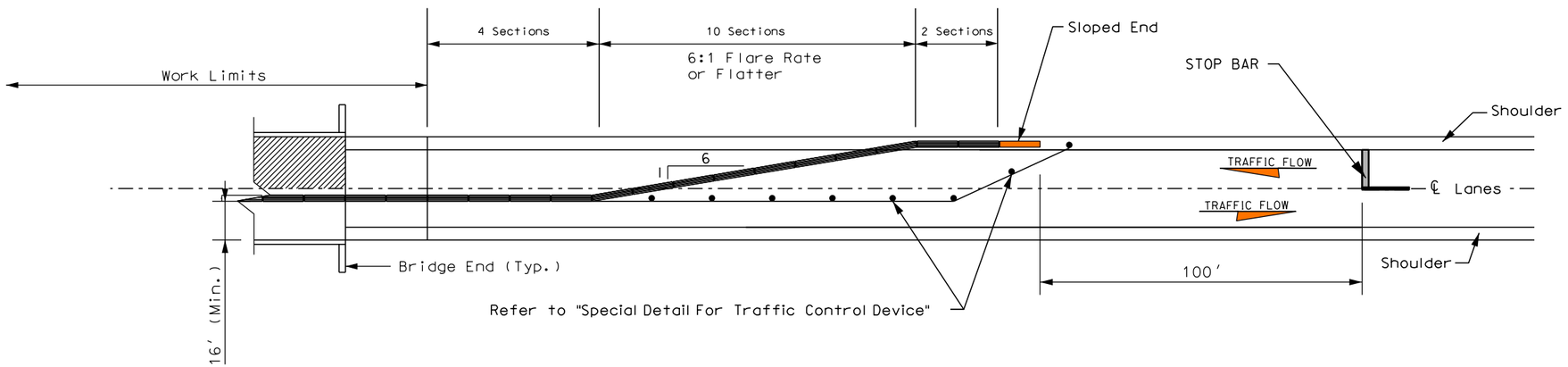
TEMPORARY MOVABLE CONCRETE BARRIER PLACEMENT AT BRIDGE ENDS WITH A STOP CONDITION AND NO BRIDGE RAIL

Structure # 62-215-274 & 62-238-270 on SD44



PLAN VIEW





PLAN VIEW

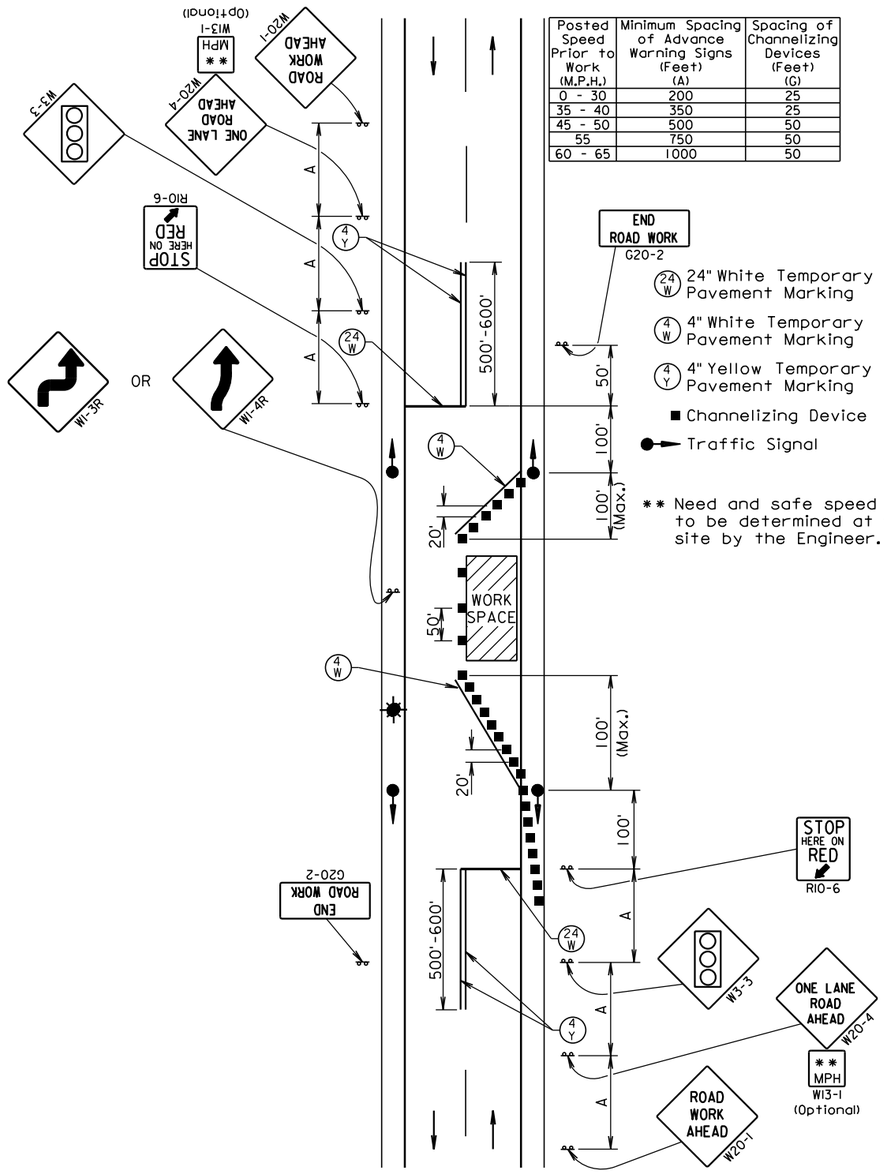
GENERAL NOTES:

* *10 FOOT MAXIMUM DISTANCE FROM EDGE OF SHOULDER TO SLOPED END. IF CONSTRUCTION ACCESS IS NOT NEEDED, SLOPED END SHALL BE PLACED AT EDGE OF SHOULDER.*

ANY ADJUSTMENTS MADE TO THE BARRIER CONFIGURATION SHALL BE APPROVED BY THE ENGINEER.

SPECIAL DETAIL FOR TRAFFIC CONTROL DEVICES

Structure # 36-361-298; 48-013-210; 62-215-274; & 62-215-270 on SD44
Structure # 48-256-262 on US83



Posted Speed Prior to Work (M.P.H.)	Minimum Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

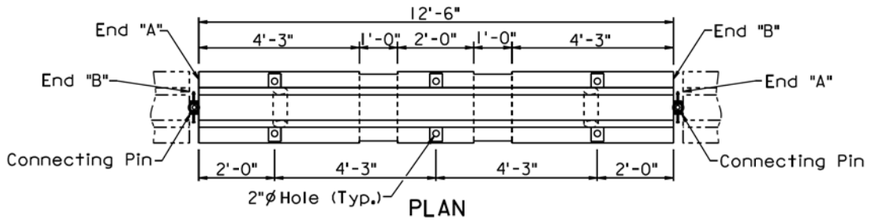
Signals shall be installed and operated in accordance with the requirements of Part 4 of the MUTCD. Temporary traffic control signals shall meet the physical display and operational requirements of conventional traffic signals.

Temporary traffic control signal timing shall be established by the Region Traffic Engineer.

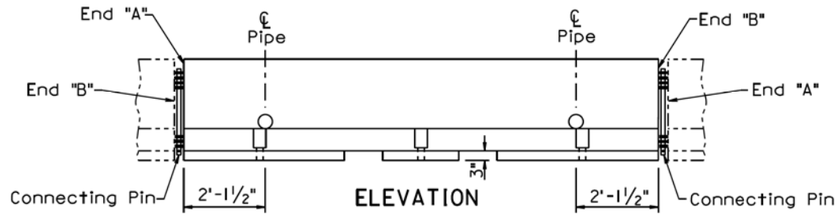
When the temporary traffic control signal is changed to a flashing mode, either manually or automatically, red signal indications shall be flashed to both approaches.

The horizontal or vertical alignment of the roadway may require adjustments in the location of the advance warnings signs. Adjustments in the height of the signal heads shall be made as necessary to conform to the vertical alignment of the roadway.

The channelizing devices shall be drums or 42" cones.

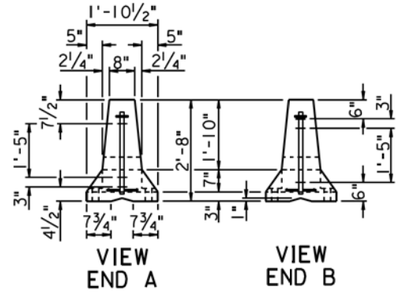


PLAN



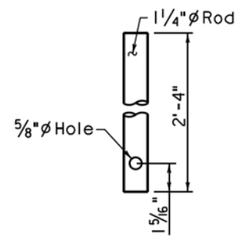
ELEVATION

PLATE A

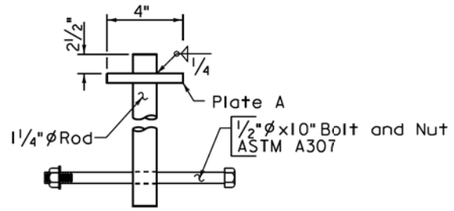


VIEW END A

VIEW END B



CONNECTING PIN DETAIL



ASSEMBLED CONNECTING PIN

June 26, 2009

Published Date: 3rd Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01 Sheet 1 of 2

GENERAL NOTES:

The detailed drawings are for illustrative purpose and depicts the current version of the F shape concrete barrier. If new movable concrete barriers are requested on a project, they shall be constructed according to the F shape movable concrete barrier details on standard plate 628.10.

Each movable concrete barrier section weighs 5030 ± pounds.

Each movable concrete barrier section is detailed to provide end "A" to end "B" connection by insertion of a pin through steel loops.

The Jersey shape or any version of the F shape traffic control movable concrete barriers may be used on a project, however, only the same type or version shall be used for each run of barriers.

Movable concrete barrier sections shall be placed to provide uniform bearing of the sections with the paved surface as approved by the Engineer.

Movable concrete barrier sections shall never be moved or lifted using the end loops.

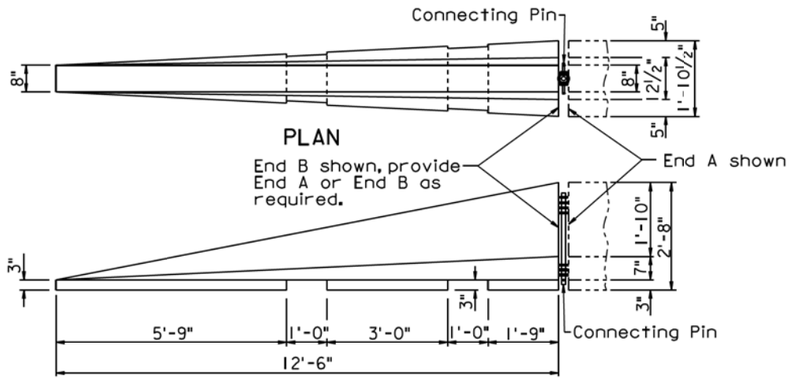
Movable concrete barrier sections that have been damaged shall not be used. Barrier sections are considered damaged if the loops are end welded onto existing damaged loops, loops are fractured, or there is exposed rebar from fractured concrete.

All cost for transporting the barriers from the specified location to the project site, installing, and returning the barriers to the specified location shall be incidental to the contract unit price per each for "Traffic Control Movable Concrete Barrier".

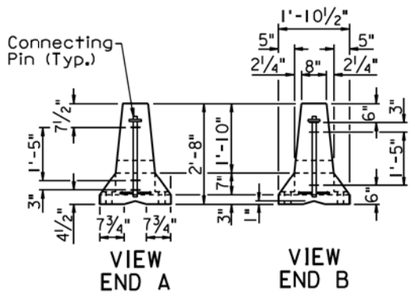
If the concrete barriers need to be moved and reset on the project, requiring the barriers to be transported by truck, all cost for removing, transporting, and resetting the barriers shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". All cost for small shifts in alignment of the barriers, not requiring the barriers to be transported by truck, shall be incidental to various contract items.

June 26, 2009

Published Date: 3rd Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01 Sheet 2 of 2

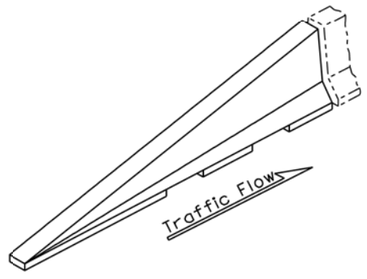


ELEVATION



VIEW END A

VIEW END B



ISOMETRIC

June 26, 2009

Published Date: 3rd Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02 Sheet 1 of 2

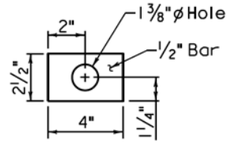
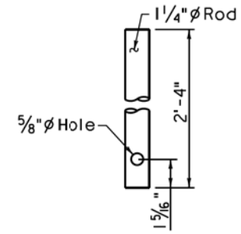
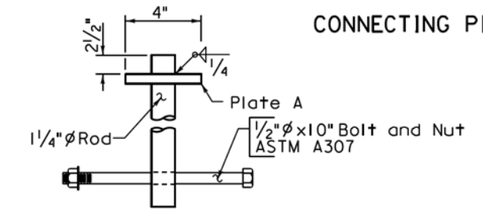


PLATE A



CONNECTING PIN DETAIL



ASSEMBLED CONNECTING PIN

GENERAL NOTES:

The detailed drawings are for illustrative purpose and depicts the current version of the F shape concrete barrier end section. If new concrete barrier end sections are requested on a project, they shall be constructed according to the F shape movable concrete barrier end section details on standard plate 628.11.

Each movable concrete barrier end section weighs 2450 ± pounds.

Each movable concrete barrier end section is detailed to provide end "A" to end "B" connection by insertion of a pin through steel loops.

The Jersey shape or any version of the F shape traffic control movable concrete barriers may be used on a project, however, only the same type or version shall be used for each run of barriers.

Movable concrete barrier sections shall be placed to provide uniform bearing of the sections with the paved surface as approved by the Engineer.

Movable concrete barrier end sections shall never be moved or lifted using the end loops.

Movable concrete barrier end sections that have been damaged shall not be used. Barrier sections are considered damaged if the loops are end welded onto existing damaged loops, loops are fractured, or there is exposed rebar from fractured concrete.

All cost for transporting the barriers from the specified location to the project site, installing, and returning the barriers to the specified location shall be incidental to the contract unit price per each for "Traffic Control Movable Concrete Barrier".

If the concrete barriers need to be moved and reset on the project, requiring the barriers to be transported by truck, all cost for removing, transporting, and resetting the barriers shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". All cost for small shifts in alignment of the barriers, not requiring the barriers to be transported by truck, shall be incidental to various contract items.

June 26, 2009

Published Date: 3rd Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02 Sheet 2 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

Flagger

Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

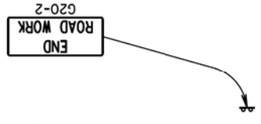
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

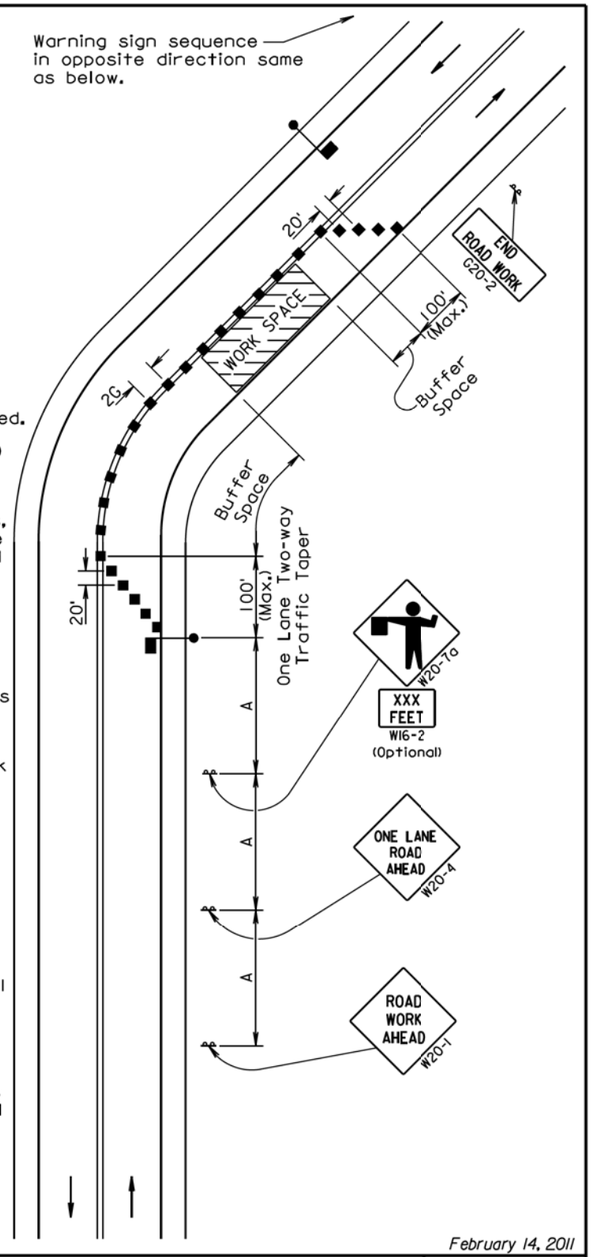
The channelizing devices shall be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

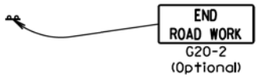


February 14, 2011

Published Date: 3rd Qtr. 2014	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000

Flagger

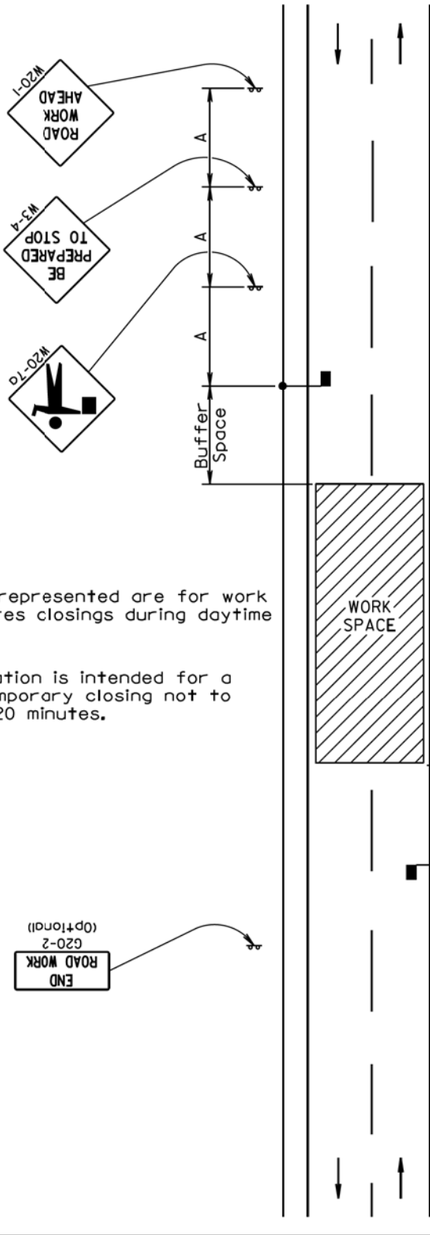


Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	35
25	55
30	85
35	120
40	170
45	220
50	280
55	335
60	415
65	485

Buffer space dependent on work site limitations.

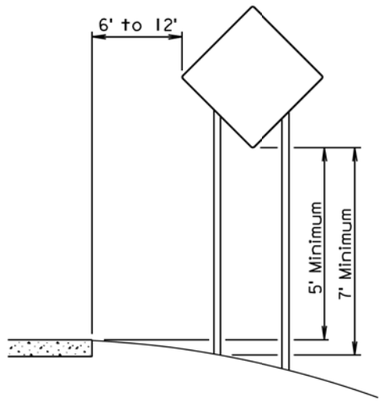
Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15-20 minutes.

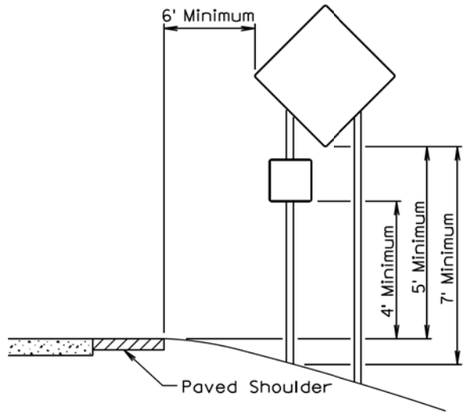


February 14, 2011

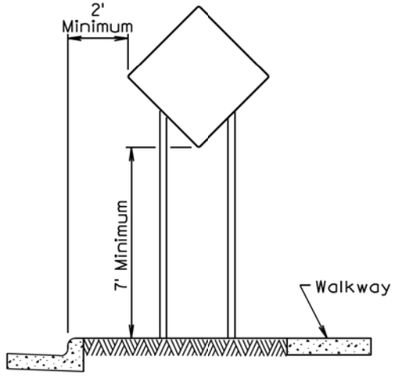
Published Date: 3rd Qtr. 2014	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD WORK	PLATE NUMBER 634.30
			Sheet 1 of 1



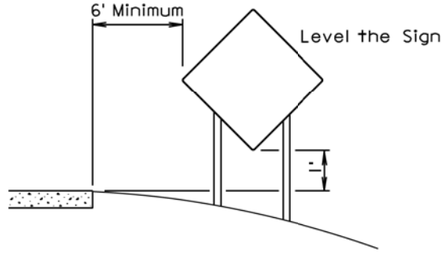
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



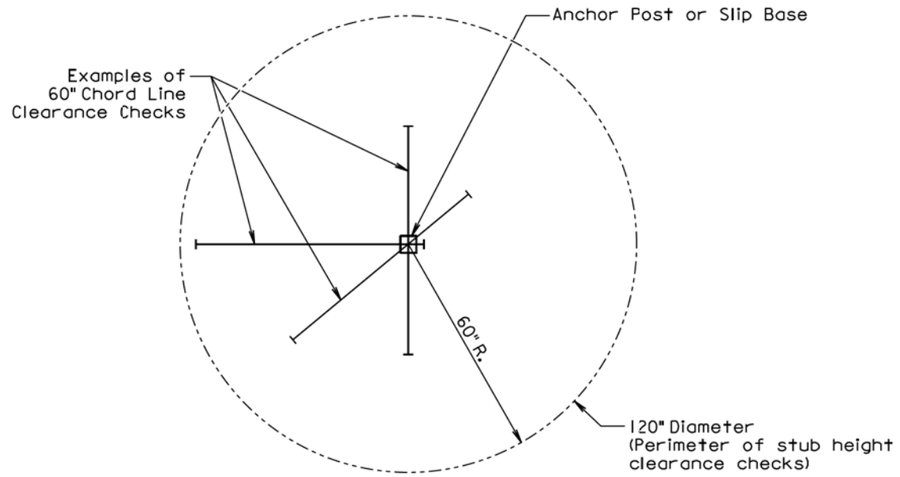
URBAN DISTRICT



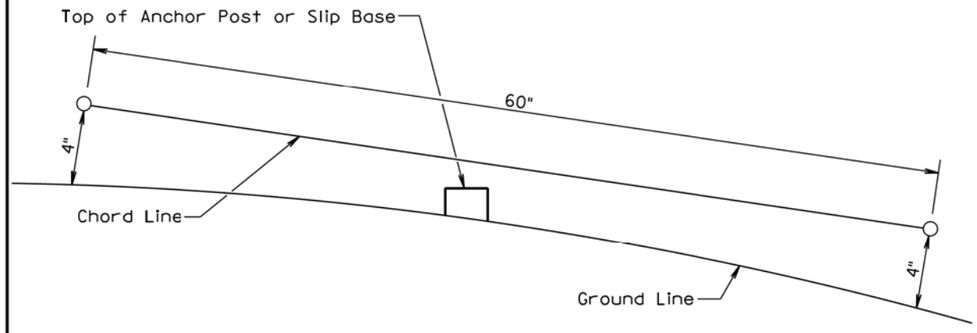
RURAL DISTRICT
3 DAY MAXIMUM

February 14, 2011

Published Date: 3rd Qtr. 2014	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 3rd Qtr. 2014	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1